Why the Earth turns

To discuss ...

- Why do scientists think the Earth is turning, and where the Moon came from..?

  -- A huge collision with another world the size of Mars.
  -- The impact "spun" the Earth, and tore off a gigantic chunk of Earth that became the Moon.

  Scientists say this happened very early in the Earth's history – about four billion years ago – before there was any life on Earth.

- We found evidence for this idea when astronauts went to the Moon. What did we find on the Moon that made scientists believe it was once part of the Earth..?

  -- We found Moon rocks are very similar to Earth rocks, as if the Moon is just a big piece of the Earth. Scientists decided the Moon must have been part of the Earth at one time, and something terrific must have torn them apart.

- What do you think happened to the "other" planet that crashed into the Earth..?

  -- Scientists say it didn't go spinning off into space. They say it got mashed up and mixed together with the Earth. It's still here. We're standing on it!

- The impact changed the way the Earth rotates. What would it be like if the Earth <u>didn't</u> turn..?

  -- If the Earth didn't turn, we wouldn't have day and night. One side of the Earth would always be dark and frozen, and the sunny side would be baked like an oven.
  -- The turning Earth produces a "medium" temperature, and gives the Earth the right climate for life – not too cold and not too hot.

  You could say we're lucky that something crashed into the Earth..!

- Have we seen anything crash into any other planets in the last few years..?

  -- We saw a broken-up comet crash into Jupiter a few years ago. (1994)

NOTE: Scientists believe lots of large objects were drifting around in the early days of the solar system, when the Earth crashed into something really big. Fortunately for us, things have settled down since then. The solar system isn't nearly as crowded as it used to be. Scientists say one reason is that the planets have cleaned up the solar system like big brooms, sweeping up loose material with their gravity. The days of big collisions, the kind that blasted out the Moon, are probably over.
(Scientists are, however, keeping on eye on smaller objects. Something the size of an asteroid may have killed the dinosaurs. It's nice to know that, so far, they see nothing heading our way.)